

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Service Rules for the 698-746, 747-762)	WT Docket No. 06-150
and 777-792 MHz Bands)	
)	
Implementing a Nationwide, Broadband,)	PS Docket No. 06-229
Interoperable Public Safety Network in the)	
700 MHz Band)	
)	
Amendment of Part 90 of the Commission's Rules)	WP Docket No. 07-100

**COMMENTS OF APCO
IN RESPONSE TO FOURTH NOTICE OF PROPOSED RULEMAKING**

The Association of Public-Safety Communications Officials-International, Inc. ("APCO") hereby submits the following comments in response to the Commission's *Fourth Notice of Proposed Rulemaking*, FCC 11-6, released January 26, 2011 ("*Fourth NPRM*"), in the above-captioned proceedings in which the Commission is seeking comments on a wide variety of technical issues and proposed rules for broadband deployment in the 700 MHz band public safety spectrum.

Founded in 1935, APCO is the nation's oldest and largest public safety communications organization. Most APCO members are state or local government employees who design, manage, and operate public safety communications systems for police, fire, emergency medical, forestry conservation, highway maintenance, disaster relief, and other public safety agencies. APCO is the largest FCC-certified coordinator for Public Safety Pool radio frequencies and appears regularly before the Commission on a wide range of issues regarding public safety communications.

Introduction and Summary

The *Fourth NPRM* addresses an extraordinarily detailed set of issues related to future public safety broadband systems in the 700 MHz band. While APCO appreciates the Commission's thorough discussion of these critical issues, we believe that most of the matters addressed in the *Fourth NPRM* go well beyond what is necessary for inclusion in Commission rules at the present time. The Commission should limit its rules to that which is necessary now to ensure nationwide interoperability across the network. Requirements that primarily address "operability" should not be incorporated into the rules. The Commission should also avoid premature adoption of rules covering operational and technical issues that have yet to be fully explored in real world environments. In many cases the Commission is proposing to establish technical specifications in its rules that no public safety agency – and, indeed, few commercial companies – have experience in implementing or managing. Those entities deploying networks should have an opportunity to determine which technical specifications are viable in actual practice before difficult-to-amend technical rules are adopted and written into the Code of Federal Regulations. Furthermore, establishing hard-and-fast rules at the level of detail suggested in the *Fourth NPRM* would stifle evolution and innovative use by public safety agencies.

In order to ensure interoperability, APCO supports the concept of a single, nationwide architecture consisting of select, uniform components to be identified and implemented in all phases of the build out and sustainment of a Public Safety Wireless Broadband Network (PSWBN); the architecture must also provide the flexibility that is necessary to accommodate the geographic, topographic and population-based needs of every regional, state, local and tribal jurisdiction. Thus, we believe that the public safety broadband network will need to have some

components that are owned, operated, constructed and managed at the local level, and other components that are owned operated constructed and managed on a nationwide basis as a “shared service.” There may also be some components that are constructed, owned, and operated by commercial entities in partnership with public safety.

Governance Recommendations

Many of the governing issues raised in the *Fourth NPRM* are currently being addressed by the Obama Administration, Congress and within the public safety community. APCO strongly believes the FCC should refrain from adopting rules on how the National Broadband Licensee (NBL) would be governed because these rules could be contrary to pending legislation. However, to further the discussion, we take this opportunity to put in to the record some guiding governing principles that should be considered in any legislation, which would define the how the nationwide public safety broadband network will be governed. These principles include:

- (1) Public Safety First Responder delegates constitute a majority of the governing body that sets the rules and enforcement for network operation and facilitates nationwide build-out. The governing body should include private sector representation from commercial, state and local government, and other stakeholder groups.
- (2) The governing body would be established as an independent quasi-governmental entity with rule making ability.
- (3) The governing body has authority to enter into contractual agreements either public and/or private and the responsibility to delegate the authority to regional, state, Tribal or local operators.

- (4) Accommodations for regional or large entity sub-governance (local presence but under the single license for purposes of operational efficiency, *etc.*) to facilitate regional access and presence.
- (5) The Public Safety 10 MHz and the D-Block would be combined under a single license issued to the governing body.
- (6) The governing body would be authorized to receive and distribute federal grants, and other funds designated for its operation and for creating and facilitating operation of the nationwide broadband network.
- (7) The governing body shall assume the responsibilities of the current licensee.

Rules that Are Necessary

APCO is very pleased that the Commission, in the *Third Report and Order*, adopted LTE as a common technology platform with at least 3GPP Standard E-UTRA Release 8 as a common air interface. However, we note that standards bodies are already working on upgrades to this standard, and that further releases should *not* be subject to the FCC's cumbersome and time-consuming rulemaking process. While the initial determination and direction to follow LTE was necessary and welcome, a user-driven governance structure such as the NBL should have the primary responsibility for future decisions on standards. Such technical standards-related matters are not normally the subject of FCC regulation, except as an initial step to ensure a path towards interoperability.

In addition to the LTE standard already adopted, the Commission should also adopt Out of Band Emissions (OOBE) limits to prevent harmful interference. The OOBE limits proposed

in the *Fourth NPRM* appear to be appropriate, and we would support the adoption of those limits in the Commission's rules.

We agree with the Commission, in paragraph 16 of the *Fourth NPRM*, that it should harmonize its definition of interoperability with that established by DHS/OEC and SAFECOM. We further agree this definition should cover both data broadband, narrowband and voice communications.

However, most of the other matters addressed in the *Fourth NPRM* should not be incorporated into FCC rules, at least not at the present time. Rather, those matters should be left, at least initially, to decisions by an appropriate governance structure such as the NBL, industry standards bodies, or local jurisdictions. Some of the matters addressed may eventually become ripe for FCC rulemaking, but not until after there has been real world experience.

Matters that Should Not be the Subject of FCC Rules at the Present Time

PLMN-IDs

The Commission addresses the issue of PLMN-IDs, a matter that has been discussed at great length among public safety entities in recent months. However, this issue, as with many others in the *Fourth NPRM*, need not be decided by the Commission. Rather it should be decided by a consensus of the currently authorized operators, and an appropriate governance structure such as the NBL. We do note, however, that a single PLMN-ID would appear to have significant advantages, including seamless use from one local network to another. As a practical matter, we also understand that the availability of PLMN-IDs is very limited, and assigning separate PLMN-IDS to each local network, even if desirable, may not be practical.

Architectural Guiding Principles

Under a section entitled “Architectural Guiding Principles” (§19), the Fourth NPRM includes a list of twelve items for potential rules. However, we believe that most of those items are operational in nature, and subject to change as technologies evolve. They should not be the subject of FCC rules. The guidance and standard operating procedures need to be established by the appropriate governing entity. These items include:

- Support of baseline applications such as those proposed in the FNPRM;
- Support of Roaming and capabilities such as home-routed and local-breakout
- Support of a nationwide framework for quality of service and priority access;
- Support of security schemes such as those proposed in the FNPRM;
- Support of a minimum level of network spectral efficiency;
- Support of a minimum level of coverage reliability (95%);
- Support for device capabilities as proposed in this FNPRM;
- Support for interference mitigation schemes;
- Test verifications for interoperability

Voice Applications

We agree with the Commission, as stated in paragraph 20 of the *Fourth NPRM*, that the public safety broadband network should someday be capable of supporting mission-critical voice and data communications. However, nothing in any of the current or proposed future 3GPP and ATIS standards would provide the type of mission-critical voice needed by public safety on an LTE network. This includes unit-to-unit and one-to-many communications capability. Until the standards organizations address these mission-critical voice issues, and the public safety industry is manufacturing low cost interoperable equipment, narrowband voice channels and spectrum

allocations will provide mission-critical voice capability for public safety users. Therefore, the Commission should not address voice applications in its rulemaking. Rather, the Commission should instead rely on standards bodies, which must include input from public safety users.

Public Internet

The *Fourth NPRM*, at paragraphs 40-42, discusses potential use of the public Internet for interconnection and other services. APCO urges that no portion of the public safety wireless broadband network should be *constructed* using the public Internet. All portions of the network should be constructed using private long-haul and backhaul networks firewalled or protected from the public Internet, and provided by public safety, commercial carriers or other secure sources. We remain convinced that cybersecurity concerns and the potential for future cybersecurity conflicts and terrorism underscore this recommendation.

However, we also acknowledge that connectivity to the Internet to provide access to vital public safety information is increasingly important to public safety agencies. Local and incident-based use of the Internet should therefore be available, but only with proper security and Denial-of-Service attack (DoS attack) preventative measures put in place to ensure the on-demand access for information from the public Internet will not interfere or have an impact on the core of the public safety broadband network. Further, appropriate provisions are needed within the public safety network governance structure to ensure that network managers have the ability to disconnect any and all connections from the Internet in case of cyber aggression on and over the Internet.

Priority

Implementation of priority among public safety network users is a primary reason to construct a public safety broadband network separately from existing or proposed commercial

networks. A minimum priority scheme for roaming between local public safety networks will be necessary and should be established by an accredited standard setting organization and adopted by the appropriate public safety governance entity. The priority levels should largely be set and managed by local public safety users operating local networks both on a default and incident basis.

Performance and Coverage

The Commission, in paragraphs 58-62 and paragraphs 71-75 of the *Fourth NPRM*, proposes required performance and coverage characteristics for the public safety broadband network. APCO does not believe that such nationwide requirements belong in the Commission's rules. Adopting a single set of requirements ignores the substantial variation across the nation in terrain, system size, number and size of man-made structures, and density of population served. Those variations lead to different balancing points between necessary system attributes and cost.

APCO further suggests that backwards compatibility of subscriber equipment to other existing commercial technologies (*e.g.* HSPA+, EVDO) can, in most cases, address non-mission critical performance and coverage requirements along with satellite services until such time as the public safety broadband wireless network can be built out in a given area.

Roaming

In paragraph 87 of the *Fourth NPRM*, the Commission describes definitions for various kinds of public safety roamers. We believe this is another matter best left to the governing entity to describe and manage. We do believe there should be no chargeback between public safety entities for roaming or use of each other's networks.

Paragraphs 93-96 of the *Fourth NPRM* address applications to be supported by roamers. This is an issue that requires further exploration based on experience, and is not ripe for decision.

However, we do not believe access to the public Internet should be a *required* application. Indeed, as noted above, we are concerned such access presents grave security and operational concerns.

Eligible Users

The *Fourth NPRM* addresses a number of important legal issues flowing from the definition of “public safety services” in Section 337(f) of the Communications Act. Most importantly, the Commission seeks comments as to the degree to which non-governmental entities, such as utilities, can make use of the public safety broadband network. As an initial matter, APCO notes that pending legislation to reallocate the 700 MHz band “D Block” also includes provisions to allow non-public safety entities, including commercial users, to utilize the 20 MHz of 700 MHz public safety broadband network on a secondary, pre-emptible basis.¹

APCO believes that the current 10 MHz allocated for public safety is inadequate to meet basic public safety requirements. Therefore, absent a reallocation of the D Block, there will not be sufficient “excess” spectrum to accommodate non-governmental entities, such as utilities and critical infrastructure. APCO agrees, however, with the vast majority of public safety organizations that utilities and similar entities can play a critical role in emergency response activities. Public safety interoperability with such entities is essential, and public safety network operators² should be allowed to permit utility use of the network to the maximum extent permitted by law, and assuming the network has sufficient capacity.

¹ See, e.g., S. 28, 112th Cong., 1st Sess., “*Public Safety Spectrum and Wireless Innovation Act*,” § 104.

² This would include the national public safety broadband licensee and those state and local government entities holding spectrum leases approved by the Commission.

The clear intent of Section 337(f) is that “the sole or principal purpose” of the 700 MHz public safety spectrum must be “to protect the safety of life, health or property.” State and local governments are plainly eligible to hold authorizations in the band, as set forth in Section 90.523 of the Commission’s rules implementing the statute.³ Similarly, non-governmental entities could be eligible under Section 337(f)(1)(B)(2) of the Communications Act if their “sole or principal purpose” is “to protect the safety of life, health, or property” and they have the express authorization of a state or local government entity.⁴ This provision could allow certain non-governmental entities such as volunteer fire departments, certain private ambulance services, disaster relief organizations, *etc.* to obtain authorizations. The provision would not, however, allow utilities and similar entities to be *licensees* (or by extension, lessees) in the band, as they would not meet the “sole or principal use” test.

However, much of what utilities do does involve the safety of life, health or property, and interoperability with utilities and is often essential for the protection of life, health or property. Thus, APCO believes that it would be appropriate under current law for government entities authorized by license or lease to operate in the 700 MHz broadband spectrum to permit utilities to utilize their system on a “secondary basis.” This would ensure that the “principal” use of the network remains the “protection of life, health, and property” consistent with the statutory intent. Licensees and authorized lessees should be required to certify that such secondary use does not alter the principal use of the band for protection of life, health or property, and that communications not meeting that test are subject to pre-emption.

³ 47 C.F.R. § 90.523. APCO is filing separate comments today in response to the Petition for Declaratory Ruling submitted by the City of Charlotte, NC.

⁴ 47 U.S.C. § 337(f)(1)(B)(2).

Authorized network operators should also be allowed to charge use fees to all network users to offset the cost of constructing and maintaining the network. The network would not be “made commercially available to the public” as is currently prohibited by Section 337(f)(1)(C) of the Act. The users would not be the “public,” and fees would be charged on a non-profit basis similar to the fees that state-wide and county-wide land mobile radio networks currently charge local agencies for system access.

The Commission should remove restrictions on secondary uses and fixed uses, allowing local jurisdictions to make decisions on applications and priorities. This issue has been well described in a Petition for Reconsideration filed by the State of New Mexico, City of Seattle, City of Charlotte, *et al* on January 10, 2011. We also note that commercial broadband 700 MHz wireless spectrum does not carry such a restriction today.

CONCLUSION

Therefore, for the reasons set forth above, APCO urges the Commission to refrain from adopting rules at the present time regarding most of the issues raised in the *Second NPRM*.

Respectfully submitted,

/s/

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